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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Jennifer Ambrose

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EXAMINER

TAMAI, KARL I

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 05/23-2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/932,201	AMBROSE ET AL.	
	Examiner	Art Unit	
	Tamai IE Karl	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 1/21/03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-22,24,25,27,28 and 30-36 is/are pending in the application.
- 4a) Of the above claim(s) 22,24,25,27,28,33 and 34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-21,30-32,35 and 36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 8/17/01 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>2,3,4</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I in the response filed 1/21/03 is acknowledged. The traversal is on the ground that there is no undue burden on the examiner due to the similar subject matter is not persuasive because the apparatus of group I does not requires the step of molding the electrically insulative core with a chemical bond being formed during the molding which is classified in class 29/597. The different classification and subject matter evidence that the inventions are separate and distinct.

The requirement is still deemed proper and is therefore made FINAL.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the chemical bonds, the sensor, the variable reluctance sensor, the hall sensor, the magnet positioned on the outer cylindrical wall, the magnet being a substantially continuous ring, and the electrically conductive material positioned within the shell with an inner surface and outer face to contact a brush must be shown or the feature canceled from the claims. No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1, 2, 4-21, 30-32, 35 and 36 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. The specification does not have a full, clear, concise, and exact written description of what constitutes a chemical bond between the magnet and the core. The specification does not contain a written description of an electrically conductive material within the shell with an inner surface and outer face to contact a brush.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura et al. (Nishimura)(JP 11-308812) and Vig et al. (Vig)(US 6,278,269). Nishimura teaches a commutator injected molded around a magnet and a shaft to

provide rotor information. Nishimura does not teach a chemical bond between the commutator and the support. Vig teaches the connection between the permanent magnet and the support can be a chemical bond (col. 4, line 65) for the purpose of reduce expense, easy manufacture, and tight tolerance (col. 1m, lines 42-50). It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the commutator of Nishimura with a chemical bond between the magnet and the molded support to provide an easy and inexpensive way to assemble the magnet and the support.

7. Claims 4-9, 15, 16, 18, 19, 35, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura et al. (Nishimura)(JP 11-308812) and Vig et al. (Vig)(US 6,278,269), in further view of Kageyama et al. (Kageyama)(US 6,369,484). Nishimura teaches the shell of the commutator integrally forms the electrically conductive material with the outer surface engaging a brush. Nishimura teaches the core molded to the magnet. Nishimura and Vig teach every aspect of the invention except the cylindrical copper shell with radial anchors and the thermosetting core. Kageyama teaches a thermosetting core 12 and a copper shell 31, with radial anchors 21. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the commutator of Nishimura and Vig with the thermosetting resin and shell of Kageyama to be inexpensive and reliable.

8. Claims 10, 19, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura et al. (Nishimura)(JP 11-308812), Vig et al. (Vig)(US 6,278,269) and Kageyama et al. (Kageyama)(US 6,369,484), in further view of Schechinger et al. (Schechinger)(FR 2 663 798). Nishimura, Vig, and Kageyama teach every aspect of the invention except the magnet being a non-conductive magnet and the sensor being a hall sensor. Schechinger teaches the magnet is non-conductive plastic. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the commutator of Nishimura, Vig and Kageyama with the plastic magnet of Schechinger to detect the speed and rotation of the rotor.

9. Claims 10-13 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura et al. (Nishimura)(JP 11-308812), Vig et al. (Vig)(US 6,278,269) and Kageyama et al. (Kageyama)(US 6,369,484), in further view of Kawashima (US 4,678,616). Schechinger et al. (Schechinger)(FR 2 663 798). Nishimura, Vig, and Kageyama teach every aspect of the invention except the magnet being a powder resin. Kawashima teaches thermosetting powder resin magnets with strontium or barium ferrite magnets are commonly used in magnetic devices. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the commutator of Nishimura, Vig and Kageyama with the powder magnets of Kawashima because the magnets are reliable and resist chipping.

10. Claims 14 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura et al. (Nishimura)(JP 11-308812), Vig et al. (Vig)(US 6,278,269) and Kageyama et al. (Kageyama)(US 6,369,484), in further view of Uchiyama (JP 11-252,866). Nishimura, Vig, and Kageyama teach every aspect of the invention except the magnet being mounted to the face of the commutator and the magnet being a continuous ring. Uchiyama teaches an annular magnet mounted to the face of the commutator. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the commutator of Nishimura, Vig and Kageyama with a continuous ring magnet mounted to the face of the commutator as in Uchiyama to provide a small thickness in the motor, and because the annular magnets suggest a continuous ring.

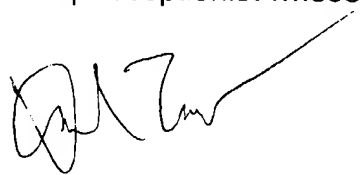
11. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura et al. (Nishimura)(JP 11-308812), Vig et al. (Vig)(US 6,278,269) and Kageyama et al. (Kageyama)(US 6,369,484), in further view of Marsal (US 2,645,732). Nishimura, Vig, and Kageyama teach every aspect of the invention except the conductive commutator shell being carboneous. Marsal teaches the commutator are carbon because carbon forms a strong bond with the resin when heated (col. 2, line 4). It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the commutator of Nishimura, Vig, and Kageyama with the commutator being carboneous to provide a strong connection with the resin core, as taught by Marsal.

12. Claims 10, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura et al. (Nishimura)(JP 11-308812), Vig et al. (Vig)(US 6,278,269) and Kageyama et al. (Kageyama)(US 6,369,484), in further view of Adler (US 5,850,141). Nishimura, Vig, and Kageyama teach every aspect of the invention except the sensor being a variable reluctance sensor. Adler teaches the equivalence of the hall sensor and the variable reluctance sensor for determining rotor speed. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the commutator of Nishimura, Vig, and Kageyama with the sensor being a variable reluctance sensor to determine the rotor speed with a passive sensor, and because it is within the ordinary skill in the art to choose between known equivalents.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl I.E. Tamai whose telephone number is (703) 305-7066. The examiner can be normally contacted on Monday through Friday from 8:00 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Nestor Ramirez, can be reached at (703) 308-1371. The facsimile number for the Group is (703) 305-3432.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

Karl I Tamai
PRIMARY PATENT EXAMINER
May 21, 2003



KARL TAMAI
PRIMARY EXAMINER